

## IT'S YOUR TURN

Please read each question carefully. For a multiple-choice question, circle the letter of the correct response. For a constructed-response question, write your answers on the lines.

- 1 Which property of water molecules explains the other properties listed below?
  - A adhesion
  - B cohesion
  - C hydrogen bond
  - D polar covalent bond
  
- 2 One property of water that makes it unique is its density. Which example describes a result of this property?
  - A Polar bears float on ice floes to hunt for food.
  - B Trees transport water from their roots to their leaves.
  - C Water strider insects walk on the surface of pond water.
  - D Plants receive enough light to grow under the surface of a lake.

**Use the picture below to answer question 3.**



- 3 The picture shows water droplets hanging on the tips of pine needles. How do the physical properties of water result in the image shown?
  - A Cohesion allows droplets to form, and adhesion keeps the droplets on the needles.
  - B Adhesion allows droplets to form, and cohesion keeps the droplets on the needles.
  - C Cohesion allows droplets to form, and capillarity keeps the droplets on the needles.
  - D Adhesion allows droplets to form, and capillarity keeps the droplets on the needles.

- 4 Which statement correctly describes one way that the properties of water affect heat and temperature?
- A Water retains more heat than other materials, making coastal ecosystems warmer year-round.
  - B Water absorbs heat when it freezes, helping to insulate lakes and ponds from cold temperatures.
  - C Water absorbs heat when it changes to vapor, helping to keep animals cool through perspiration.
  - D Water retains less heat than other materials, keeping aquatic ecosystems cooler than those on land.
- 5 A tree absorbs water from its roots and loses water that evaporates from leaves. Inside the tree, capillary action allows water to flow upwards through tissue called *xylem*, which is composed of tubes made from cell walls.

- A Identify and explain how two (2) properties of water contribute to capillary action within the xylem.

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- B A tree can experience *cavitation*, which occurs when a bubble of air forms inside a xylem tube. Explain how cavitation affects a tree's ability to conduct water.

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